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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/575,367

04/11/2006

Henri Rosset

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EXAMINER

GRABOWSKI, KYLE ROBERT

ART UNIT

PAPER NUMBER

3722

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/575,367	Applicant(s) ROSSET, HENRI	
	Examiner Kyle Grabowski	Art Unit 3722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>04/11/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Murakami et al. (US 5,961,432).

3. In respect to claim 1, Murakami et al. disclose a security paper comprising two paper layers: first ply 4 and second ply 3 which are both external; the first ply 4 includes watermarks 2 which are absent from the second ply; the second ply 4 has indicia (Fig. 2) which helps authenticate the document.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which

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said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1-10, 12, 14, and 18, are rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami et al. (US 5,961,432) in view of Murakami et al. (US 5,565,276).

In respect to claims 1-3, 9, 10, Murakami et al. ('432) substantially disclose the claimed subject matter for the reasons stated above but do not disclose a reinforcing element in the second ply.

Murakami et al. ('276) disclose an anti-falsification paper 1 comprising thin nacreous (iridescent) pigment fragments 2 that are buried during the paper making process (Fig. 2). The base paper 1 can be comprised of cotton (Col 4, Ln 48) and further, reinforced with a "paper strength agent such as polyacrylamide" (Col. 4, Lns 49-50), a polyamide. The nacreous pigments "exhibit a rainbow color and their hue changes depending on an angle of view" (Col. 3, Lns 62-63) providing an authentication element. The nacreous pigments are held to the paper by a binder, preferably polyvinyl alcohol (PVA) which has "a suitable physical strength" (Col. 3, Lns 21-22); the binder also acts as a

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reinforcing element thereby incorporating an authentication function into the reinforcement.

Murakami et al. ('276) further disclose that the "blending amount of the polyolefin synthetic pulp is preferably 2 to 30 parts by weight to 98 to 70 parts by weight of paper-making pulp" (Col. 4, Lns 61-63). This range (2% to 30% polyolefin) includes the limitation of between 10 and 20 parts polyethylene to 100 parts other fibers (9.1% to 17.7% polyethylene). Murakami et al. don't specifically disclose polyethylene, however polyethylene is a well know polyolefin (see PIPA attached) and therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to select polyethylene as a suitable polyolefin because material selection is held to be within one of ordinary skill in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the second ply 3 of the security paper composite taught in Murakami et al. ('432) with anti-falsification paper stock in view of Murakami et al. ('276) to provide further security measures to the multi-layer composite.

Furthermore, the paper stock ('276) in Figure 5 features two paper layers 10 and 20, with the reinforced fibers in layer 10; also, "anti-falsification paper according to the present invention can be used in combination with other anti-falsification means, such as watermarking, mixing with dyed fibers, including of security threads, and so forth" (Col. 7, Lns 10-13). It also would have been obvious to one of ordinary skill in the art at the time the invention was made to

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substitute the second ply 3 of the security paper composite taught in Murakami et al. ('432) with anti-falsification two-layer paper stock in view of Murakami et al. ('276, Fig 5) to provide further security measures to the multi-layer composite.

In respect to claims 4 and 5, Murakami et al. ('432) further disclose that the first ply 4 includes watermarks 2 printed thereon as authentication elements which can be detected optically through windows in the second ply 3 (Fig. 2).

In respect to claims 6, 7, and 17, Murakami et al. ('432) further disclose a security thread 5 which is an additional authentication element (which for the purposes of claim 1 may also be referred to as *the* authentication element of first ply 4); the security thread 5 may be a magnetic thread (Col 5, Ln 39) which would react to a electromagnetic field (especially a strong one created by microwaves), or alternately a fluorescent thread (Col 5, Ln 40) which would react to a stimulation of x-rays by displaying visual light observable to the naked eye.

In respect to claims 8 and 18, Murakami et al. ('432) further disclose that the "combination ratio between the outermost paper layer [3] and the inner paper layer [4] is preferably set in a range of between 20:80 and 80:20" (Col 5, Lns 64-66); in the instance of combination ratio 35:65 the first ply is approximately 1.86 times greater in weight. Although Murakami et al. ('432) does not specifically disclose a thickness ratio, because both plies are substantially flat and of the same material, an adjustment of their weight ratio very strongly correlates with

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their thickness ratio and therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the first ply with a greater thickness (or more specifically 1.5 to 2.0 times greater thickness) than the second ply to define a suitable range where the watermarks can be clearly defined (Col. 6, Lns 3-6).

In respect to claims 12 and 14, Murakami et al. ('432) further disclose that the security paper layers 3 and 4 may be comprised of cotton fibers (Col 4, Ln 21) and ultimately utilized as banknote paper (Col. 7, Ln 43).

In respect to claims 15 and 16, Murakami et al. ('432) further disclose: a cylinder paper machine 11a with molds 13 (Fig. 4), a watermark wire 12b (Fig. 5), and that the "second layer overlying the first layer to form a two-layer combined sheet" together comprising a "wet web" (Col. 6, Lns 56-64).

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami et al. (US 5,961,432) in view of Murakami et al. (US 5,565,276) as applied to claim 1 above, and further in view of Nordic Pulp and Paper Research. Murakami ('432) as modified by Murakami ('276) does not disclose the tear strengths of any of the fibrous paper plies, however a tear index of $10 \text{ mNm}^2/\text{g}$ is dependent upon the material one selects from Murakami et al. ('276) as the second ply. Nordic Pulp and Paper show that a pulp such as pine kraft have a tear index above $10 \text{ mNm}^2/\text{g}$ for all brands listed. It would have been obvious

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to one of ordinary skill in the art at the time the invention was made to select a pine kraft pulp to insure that the tear index was higher than 10 mNm²/g.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Schmitz et al. (US 6,491,324), Edwards (US 5,388,862), Kaule et al. (US 5,112,672), Green et al. (US 5,042,842), and Suzuki (US 4,499,126) all disclose similar inventions.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KYLE GRABOWSKI whose telephone number is (571)270-3518. The examiner can normally be reached on Monday-Thursday and every other Friday

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Monica Carter can be reached on 571-272-4475. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kyle Grabowski
Examiner, Art Unit 3722

/Monica S. Carter/
Supervisory Patent Examiner, Art Unit 3722